Wright Staining Solution

Introduction

Wright Staining Solution is a mix of an anionic dye eosin, and a cationic dye methylene blue. Wright staining is a widely used technique in histopathology.

Eosin being acidic, bind to the mature red blood cells and eosinophils to give a pink color. While methylene blue is basic and binds to acidic components like basophils, monocytes, and lymphocytes, producing a blue-purple or purple-red color. Neutrophils can react with eosin and methylene blue together and are stained pale purple. Each type of blood cell stains differently and can be distinguished morphologically. Similarly, this solution stains the basic cytoplasm pink, and stains the acidic nuclei purple-red.

Wright staining solution is often used in combination with Giemsa staining solution.

Components and Storage

Components	K1182-100 mL	K1182-500 mL
Wright Staining Solution	100 mL	500 mL
Store the components at room temperature away from light. Stable for at least 1 year.		

Protocol

1. Sample pretreatment

1) Paraffin section

① Soak the sections in the xylene 2 times (5-10 min/per time) to remove the wax

② Absolute ethanol treatment for 5 min

③ 90% ethanol treatment for 2 min

④ 80% ethanol treatment for 2 min

⑤ 70% ethanol treatment for 2 min

⑥ Rinse with distilled water for 2 min

2) Frozen section

① Rinse with distilled water for 2 min

3) Cell smear

① Prepare the cell smear as usual and dry it naturally

② 70% ethanol fixation for 10 min

4) Culture cell

① 70% ethanol fixation for 10 min

2. Sample staining

1) Wright Staining Solution treatment for 3 min, and then add an equal amount of PBS, gently and mix well, wait for 5 min

*Note: The time of Wright staining can be adjusted according to the experimental needs.

3. Rinse with distilled water from one side of the section, dry and examine directly under the microscope.

4. Staining result

Mature red blood cells, eosinophils	Pink
Basophils, monocytes, lymphocytes	Blue-purple or purple-red
Neutrophils	Pale purple

Note

1. If the staining is too strong or too wake, please adjust the staining time or the concentration of working solution according to experiment needs.
2. If the staining is too strong, try to immerse or rinse the section with running water, or decolorize with ethanol appropriately.
3. Usually, pH may affect the staining. Make sure the slides are clean and free from acid and alkaline.
4. For your safety and health, please wear lab coats and gloves during the experiment.

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